REMARKS

This application has been reviewed in light of the Office Action dated December 8, 2003. Claims 1, 4-7, 10, 13-15, 18, and 30-39 are presented for examination, of which Claims 1 and 18 are in independent form. New Claims 38 and 39 have been added to provide Applicants with a more complete scope of protection. Claims 1 and 18 have been amended to define Applicants' invention more clearly. Favorable reconsideration is requested.

The Office Action states that Claims 1, 4, 5, 10, 18, 30, 31, and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,504,757 (Cook et al.) in view of European Patent Application No. 0 697 778 A2 (Keshav); that Claims 6 and 32 are rejected under § 103(a) as being unpatentable over Cook et al. in view of Keshav, and further in view of U.S. Patent No. 4,884,266 (Pflaumer); that Claims 7 and 33 are rejected under § 103(a) as being unpatentable over Cook et al. in view of Keshav, and further in view of U.S. Patent No. 5,010,553 (Sheller et al.); that Claims 13, 14, 35, and 36 are rejected under § 103(a) as being unpatentable over Cook et al. in view of Keshav, and further in view of U.S. Patent No. 6,167,046 (Terada et al.); and that Claims 15 and 37 are rejected under § 103(a) as being unpatentable over Cook et al. in view of U.S. Patent No. 6,246,665 (Watanabe et al.). Applicants respectfully traverse the rejections and submit that independent Claims 1 and 18, together with the claims dependent therefrom, are patentably distinct from the cited prior art for at least the following reasons.

The present invention relates generally to a communication apparatus and method for a communication system in which a plurality of different electronic devices (e.g.,

audio/video equipment, personal computer(s), etc.) are connected to a transmission channel. Control data of each of the devices as well as different types of information data (e.g., video data, audio data, graphics data, text data, etc.) are present in a mixed manner on the transmission channel.[1] The communication apparatus and method of the present invention determines a maximum transfer rate to all of the electronic devices according to responses received from the electronic devices to a predetermined packet transmitted thereto.

An aspect of the present invention set forth in Claim 1 is directed to a communication apparatus that includes a communication unit and a control unit. The communication unit has different transfer rates and is adapted to transmit a predetermined packet to destinations using at least one of the different transfer rates until responses from all of the destinations are received. The control unit is adapted to determine a maximum transfer rate between the apparatus and all of the destinations, based on the responses transmitted from all of the destinations.

Cook et al. relates to a system for selecting a transmission speed for transmitting data packets over a serial bus. As understood by Applicants, Fig. 3 of Cook et al. discloses the step of a communication apparatus determining a maximum data packet speed (step 338). However, as conceded in the Office Action, Cook et al. " does not disclose that the apparatus receives responses for the destinations or that the determination is made based on the response transmitted from each of the destinations." That is, Cook et al. fails to disclose that the

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[1] The examples provided herein are for illustrative purposes. The claims of the present application are not to be limited to the illustrative examples or any details discussed in connection therewith.

apparatus receives responses from all of the destinations and determines a maximum transfer rate between the apparatus and all of the destinations based on the received responses.

Cook et al., at column 7, line 51 *et seq.*, teaches the following for determining a maximum data packet speed:

> A flowchart illustrating the steps used by the system to determine the maximum data packet speed for data packet transmission is depicted in FIG. 3. At first, in step 310, the system enters the source and destination node IDs for all nodes in the network. In step 312, the system determines whether the source ID is the same as the destination ID, and if so, returns with the packet speed as equal to the speed of the source or destination node (step 314). If not, the system, in step 316, sets the left node ID to be equivalent to the lower node ID, which may be either the source or destination. In step 318, the system then sets the right node ID to be equal to the higher node ID, whether it is the source or destination ID. In step 320, the system initializes the packet speed to be equal to the left node ID's speed. After which, the system, in step 322, determines whether the packet speed is equal to the lowest speed possible, and if so, proceeds to step 324. In step 324, the system returns the packet speed as being set to the lowest speed possible. If the packet speed is not the lowest speed possible then, in step 326, the system sets the left node ID to be equal to the left node ID's parent node ID number.
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> In step 328, the system determines whether the left node ID's speed is less than the packet speed, and if so, the system proceeds to step 330. In step 330, the system sets the packet speed equal to the left node ID's speed and then, in step 332, the system determines whether the packet speed is now the lowest speed. If the packet speed is the lowest speed, then the system proceeds to step 324; otherwise, the system proceeds to step 334 where the system determines whether the right node ID is greater than the left node ID. If the right node ID is greater than the left node ID, the system then proceeds to step 326; otherwise, the system proceeds to step 336.
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> In step 336, the system determines whether the right node is less than the left node and if it is not, it proceeds to step 338, where it returns the packet speed as being the maximum allowed speed. If the right node ID is less than the left node ID, then the system in

> step 340, determines whether the right node ID's speed is less than the current packet speed. If it is, the system, in step 342 sets the packet speed to be equal to the right node ID's speed. The system then, in step 344 determines whether the packet speed is the lowest speed possible, and if so, the system proceeds to step 324. If the packet speed is not the lowest speed possible, the system, in step 346, sets the right node ID to be the same as the right node's parent node ID and then returns to step 336 until the right node ID is the same as the left node ID.

Keshav relates to methods for adjusting a data transmission rate. As understood by Applicants, Keshav discloses determining an optimum transmission rate, for transmission from a source node to an apparatus, by: transmitting a data packet; receiving an acknowledgment signal; and evaluating the acknowledgment signal to determine whether the data packet has been received or was lost (see, for example, column 3, lines 23-42, and Fig. 5).

Applicants submit that a combination of Cook et al. and Keshav, assuming such combination would even be permissible, would fail to teach or suggest a communication apparatus that includes "a communication unit having different transfer rates and adapted to transmit a predetermined packet to destinations using at least one of the different transfer rates until responses from all of the destinations are received," and "a control unit adapted to determine a maximum transfer rate between the apparatus and all of the destinations, based on responses transmitted from all of the destinations," as recited in Claim 1.

As clear from the portion of Cook et al. reproduced above, the method for determining a maximum data packet speed disclosed in Cook et al. is not equivalent to or suggestive of determining a maximum transfer rate between a communication apparatus and all destinations to which a predetermined packet is transmitted, based on responses transmitted from

all of the destinations, as claimed in Claim 1.

Further, Keshav is not believed to remedy the deficiencies of Cook et al., because Keshav is understood to relate to transmission between only two devices: a source and a destination. Nothing has been found in Keshav that is believed to disclose or suggest how to extend the methods disclosed therein to determine a maximum transfer rate between a communication apparatus and all destinations to which a predetermined packet is transmitted.

Furthermore, as understood by Applicants, Cook et al. and Keshav disclose different methods for determining an optimum transmission rate. As such, Applicants respectfully submit that a combination of Cook et al. and Keshav would not be proper. In particular, Cook et al. is understood to base its determination as described in the selected excerpt reproduced above. Keshav is understood to base its determination on detecting when data packets are lost. Nothing in either reference is believed to provide motivation for one of ordinary skill in the relevant art to choose one method over the other.

Accordingly, Applicants submit that Claim 1 is patentable over the cited art and respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a). Independent Claim 18 includes a feature similar to that discussed above, in which a determination is made of a maximum transfer rate between an apparatus and all destinations to which a predetermined packet is transmitted, based on responses received from the destinations. Therefore, Claim 18 also is believed to be patentable for at least the above reasons. Further, the other claims in this application depend from one or another of the independent claims discussed above, and therefore are submitted to be patentable for at least the same reasons. Since each dependent claim is also

deemed to define an additional aspect of the invention, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.

The present Amendment After Final Action is believed clearly to place this application in condition for allowance. Therefore, its entry is believed proper under 37 C.F.R. § 1.116 and is respectfully requested, as an earnest effort to advance prosecution and reduce the number of issues. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

No petition to extend the time for response to the Office Action is deemed necessary for the present Amendment After Final Action. If, however, such a petition is required to make this Amendment timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 06-1205.

CONCLUSION

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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